

## REMARKS

### 1. STATUS OF CLAIMS

Claims 1, 2, 4-17, 19-31, 33-46, and 51-78 were pending in the application. With this response, Applicants cancel claims 9, 13, 15-29, 32, 37, 41, 43, 52, 59-66, 71, and 73-78, without prejudice. New claims 79-93 are added. Claims 1, 2, 4-8, 10-12, 14, 30, 31, 33-36, 38-40, 42, 44-46, 51, 53-58, 67-70, 72, and 79-93 are now pending.

Claim 1 is amended to clarify that the substrate is covalently bound to the main chain of the polymer and is not bound through a pendant group attached to the main chain of the polymer. Support for the amendment is found at paragraph [0057] of the specification. The materials and compositions of the present application are distinguishable from the articles of Swanson which comprise a substrate bound through pendant groups to the main chain of the polymers.

Claims 10 and 38 are amended to be dependent from claims 1 and 30, respectively. The language of the claims was amended to clarify the antecedent relationship with claims 1 and 30 respectively.

Claim 12 is amended to more completely exemplify the allyl- or vinyl-monomers of the claim. Support for the recited monomers is found in claims 12 and 14 of the specification as filed.

Claims 14 and 42 are amended to properly further limit the recited monomers to only monomers within the classes of monomers recited in claims 12 and 40, respectively.

Claim 30 is amended to clarify the language of the claim and use consistent terms throughout the claim. Note the recitation of "not pendant to the main chain of the polymeric molecules" limits the claim to polymers wherein the ammonium group is within the main chain of the polymer. No new matter is being recited.

Claims 31 and 33 are amended to clarify the language of the claims and use consistent terms among the claims. No new matter is being recited.

Claims 39 and 40 are amended to further limit the recited monomers

Claim 44, 45, and 46 are amended to correct the dependency from claim 30.

Claim 51 is amended to use consistent language with claim 30 and clarify that the composition, which comprises the coating and substrate, is absorbent of aqueous liquids. Support for the amendment is found at paragraph [0049] within the specification.

Claim 54 and 67 are amended to correctly recite the chemical name of

DADMAC.

New claims 79 - 93 recite materials and compositions that are superabsorbent. The new claims incorporate some of the subject matter of canceled claims 16 - 29 and 59 - 66. The new claims relate back to claims 1 and 30. Support for the new claims is found within canceled claims 16 - 29, claims 59 - 66, and within the specification as filed.

### **THE OFFICE ACTION OF NOVEMBER 16, 2007**

The Examiner, in an Office Action mailed November 16, 2007, rejected all of the then-pending claims in the application.

- A. Claims 1, 2, 4-17, 19-31, 33-46, 51-53, 56-58, 66, and 68-78 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Swanson U.S. 5,783,502 ("Swanson") in view of Sherba et al. EP 0 593 970 ("Sherba").
- B. Claims 4 and 33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Sherba and further in view of Mao U.S. 6,346,125 ("Mao").
- C. Claims 15, 43-46, 54, and 67 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Sherba and further in view of Kolb et al U.S. 6,797,856 ("Kolb").
- D. Claims 16-17, 20-28, 59-60, and 64-65 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Sherba and further in view of Baker U.S. 5,643,238 ("Baker").
- E. Claim 19 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Sherba and Baker as applied to claim 16 and further in view of Mao.
- F. Claims 29 and 61 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Sherba and Baker as applied to claim 16 and further in view of Kolb.
- G. Claim 55 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Sherba and further in view of Faries, Jr., et al U.S. 5,816,252 ("Faries").
- H. Claim 62 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Sherba and Baker as applied to claim 16 and further in view of Faries.
- I. Claim 63 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Swanson in view of Sherba and Baker as applied to claim 16 above.

## **2. REQUEST FOR CONTINUED EXAMINATION**

Applicants submit a Request for Continued Examination (RCE) along with this Response. This Response includes amendments to the claims and new claims. New arguments to support patentability are also raised in the Response. Submission of an RCE with this Response is intended to expedite entry of the present amendment and the conclusion of this patent examination.

### 3. ARGUMENTS AGAINST EXAMINER'S OBVIOUSNESS REJECTIONS

Applicants respectfully traverse the Examiner's 35 U.S.C. § 103(a) rejections of the pending claims and request reconsideration and withdrawal of the rejections based on the claim amendments given above, the declaration submitted herewith, and the following remarks.

#### **A. REJECTION OF CLAIMS 1, 2, 4-17, 19-31, 33-46, 51-53, 56-58, 66, AND 68-78 UNDER 35 U.S.C. § 103(A) AS BEING UNPATENTABLE OVER SWANSON IN VIEW OF SHERBA.**

The Examiner asserts that Swanson discloses all aspects of the claimed invention with the exception of the quaternary ammonium structure not being pendant to the main chain of the polymer. The Examiner further asserts that Sherba discloses polymers comprising a quaternary ammonium structure within the backbone. The Examiner concludes that it would have been obvious to one of ordinary skill in the art to combine Swanson and Sherba to obtain the present invention as described in claims 1, 2, 4-17, 19-31, 33-46, 51-53, 56-58, 66, and 68-78. Applicants respectfully disagree.

The rejection is moot with respect to claims 13, 15-17, 19-29, 37, 41, 43, 52, 66, 71, and 73-78 because those claims have been canceled. Applicants argue that the combination of Swanson and Sherba do not make claims 1, 2, 4-8, 10-12, 14, 30, 31, 33-36, 38-40, 42, 44-46, 51, 53, 56-58, 68-70, and 72 obvious to one of ordinary skill in the art.

The Examiner asserts that it would be "obvious to one of ordinary skill in the art to provide the enhanced surface of Swanson with the polymers taught by Sherba, having the quaternary ammonium structure not pendant[sic], to provide improved antimicrobial protection." Applicants have interpreted that assertion to mean that the Examiner has hypothesized that co-polymers comprising both the monomers of Swanson and the monomers of Sherba could be prepared and would make obvious Applicants' invention as disclosed in the now-pending claims.

Applicants assert that it would not have been obvious to one of ordinary skill in the art to combine the disclosures of Swanson and Sherba to prepare a polymer comprising both the monomers of Swanson and the monomers of Sherba. The processes disclosed by Swanson and Sherba are not compatible for interchangeably reacting the monomers of one using the process of the other. Stated differently, the processes of Swanson cannot be used to incorporate the monomers of Sherba within the combination polymers suggested by the Examiner. Neither can the processes of Sherba be used to incorporate the monomers of Swanson within the combination polymers suggested by the Examiner.

The declaration of chemistry expert Dr. Rustom S. Kanga, submitted herewith, describes his opinions regarding the inter-reactivity of the Swanson and Sherba monomers. He concludes that it would not be possible to react the Swanson monomers with the Sherba monomers, stating two reasons for that conclusion. First, the Swanson monomers lack a core displaceable sulfonate group required for the process of Sherba [Kanga Declaration of April 14, 2008, (“Kanga”) ln 118-123.]. Second, the Sherba monomers lack a vinyl group or latent reactive group that would allow polymerization with the Swanson monomers using the radical catalytic processes described by Swanson [Kanga, ln 125-131]. See also Kanga, ln 151-156.

Dr. Kanga also concludes that the Sherba polymers could not be covalently bound to substrates via the process taught by Swanson because the Sherba polymers lack a latent reactive group for the photocatalytic process [Kanga, ln 149-152].

Dr. Kanga concludes that the covalent bonding of the Swanson polymers with the substrates occur through latent reactive functionalities on the pendant groups of the polymer [Kanga, ln. 75-79] Swanson does not disclose covalent bonding of the main chain of the polymer with the substrate as disclosed in the present application at paragraphs [0057] and [0099].

Lastly, Dr. Kanga concludes that it is not possible to covalently bond the Sherba polymers with a substrate via the catalytic processes disclosed by Swanson because the polymers lack a vinyl or latent reactive group required for the process [Kanga, ln 125-128].

In view of the declaration made by Dr. Kanga, Applicants assert that Swanson does not disclose the invention as claimed. Swanson does not disclose compositions wherein a substrate is covalently bonded to the main chain of a polymer. Rather, Swanson discloses a substrate that is bonded to the pendant group of the polymer chain.

Applicants assert that Sherba does not disclose the invention as claimed. Sherba does not disclose polymers that can be covalently bonded to a substrate using a cerium-catalyzed and photochemical process as described by Applicants and Swanson.

Applicants assert that co-polymers prepared from the Sherba monomers and Swanson monomers described by the Examiner in the previous Office Action can not be prepared by the methods disclosed by Sherba or by Swanson, nor would they be capable of being prepared by any method disclosed in the present application by Applicants. The Sherba monomers lack a vinyl or reactive group required for the catalytic polymerization processes of Swanson and Applicants. The Swanson monomers lack a core displaceable sulfonate group for the polymerization process of Sherba. Applicants assert that some inventive step would be required to develop a process to produce the co-polymers hypothesized by the Examiner.

Applicants assert that the combination of Swanson and Sherba does not make obvious to one of ordinary skill in the art the invention as recited in claims 1, 2, 4-8, 10-12, 14, 30, 31, 33-36, 38-40, 42, 44-46, 51, 53, 56-58, 68-70, and 72. Sherba does not disclose a polymer that can be covalently bound to a substrate via the catalytic processes of Swanson. Swanson does not disclose compositions comprising substrates that are covalently bound to the main chain of the polymer. Because the co-polymers hypothesized by the Examiner could not be prepared by methods disclosed in the prior art references, Applicants assert that the combination of Swanson and Sherba is not a proper combination of references to reject Applicants' invention as claimed.

Furthermore Applicants assert that the combination of Swanson and Sherba, either alone, or in view of any additional references, would not be proper to reject the remaining claims 54, 55, 67, and 79-93 of the present application.

Applicants respectfully request the Examiner to withdraw the obviousness rejection of the pending claims of this application and allow the claims.

**B. REJECTION OF CLAIMS 4 AND 33 UNDER 35 U.S.C. § 103(A) AS BEING UNPATENTABLE OVER SWANSON IN VIEW OF SHERBA AND FURTHER IN VIEW OF MAO.**

Applicants respectfully traverse the rejection. Mao fails to supply what is missing from the disclosures of Swanson and Sherba as discussed above with regard to claims 1 and 30. Moreover, Mao's teaching of biguanide as antimicrobial agent at col. 4, lines 42-46 fails to suggest a polymer having monomeric moieties of a biguanide which contribute to the overall antimicrobial effectiveness of the polymer.

Applicants respectfully request the Examiner to withdraw the obviousness rejection of claims 4 and 33 and allow the claims.

**C. REJECTION OF CLAIMS 15, 43-46, 54, AND 67 UNDER 35 U.S.C. § 103(A) AS BEING UNPATENTABLE OVER SWANSON IN VIEW OF SHERBA AND FURTHER IN VIEW OF KOLB.**

The rejection is moot with respect to claims 15 and 43 because the claims have been canceled. Applicants respectfully traverse the rejection and argue that Swanson and Sherba in view of Kolb do not make claims 44-46, 54, and 67 obvious to one of ordinary skill in the art.

Kolb fails to supply what is missing from the disclosures of Swanson and Sherba as discussed above with regard to claims 1 and 30. Moreover, although Kolb refers to DADMAC at col. 6, line 26 in a wash list of "binding agents" that can be used to trap microorganisms, it fails to teach or suggest polymers of DADMAC, namely polyDADMAC.

Applicants respectfully request the Examiner to withdraw the obviousness rejection of claims 44-46, 54, and 67 and allow the claims.

**D. REJECTION OF CLAIMS 16-17, 20-28, 59-60, AND 64-65 UNDER 35 U.S.C. § 103(A) AS BEING UNPATENTABLE OVER SWANSON IN VIEW OF SHERBA AND FURTHER IN VIEW OF BAKER.**

The rejection is moot with respect to claims 16-17, 20-28, 59-60, and 64-65 because the claims have been canceled.

**E. REJECTION OF CLAIM 19 UNDER 35 U.S.C. § 103(A) AS BEING UNPATENTABLE OVER SWANSON IN VIEW OF SHERBA AND BAKER AS APPLIED TO CLAIM 16 AND FURTHER IN VIEW OF MAO.**

The rejection is moot with respect to claim 19 because the claim has been canceled.

**F. REJECTION OF CLAIMS 29 AND 61 UNDER 35 U.S.C. § 103(A) AS BEING UNPATENTABLE OVER SWANSON IN VIEW OF SHERBA AND BAKER AS APPLIED TO CLAIM 16 AND FURTHER IN VIEW OF KOLB.**

The rejection is moot with respect to claims 29 and 61 because the claims have been canceled.

**G. REJECTION OF CLAIM 55 UNDER 35 U.S.C. § 103(A) AS BEING UNPATENTABLE OVER SWANSON IN VIEW OF SHERBA AND FURTHER IN VIEW OF FARIES.**

Applicants respectfully traverse the rejection. Even though Fairies discloses a surgical drape having a liquid-sensitive indicator to indicate a leak, that is not a similar purpose as an indicator for a condition or status based on an aspect of absorbed biological fluids as recited in claim 55. Furthermore, Fairies fails to supply what is missing from the disclosures of Swanson and Sherba as discussed above with regard to claim 1.

Applicants respectfully request the Examiner to withdraw the obviousness rejection of claim 55 and allow the claim.

**H. REJECTION OF CLAIM 62 UNDER 35 U.S.C. § 103(A) AS BEING UNPATENTABLE OVER SWANSON IN VIEW OF SHERBA AND BAKER AS APPLIED TO CLAIM 16 AND FURTHER IN VIEW OF FARIES.**

The rejection is moot with respect to claim 62 because the claim has been canceled.

**I. REJECTION OF CLAIM 63 UNDER 35 U.S.C. § 103(A) AS BEING UNPATENTABLE OVER SWANSON IN VIEW OF SHERBA AND BAKER AS APPLIED TO CLAIM 16 ABOVE.**

The rejection is moot with respect to claim 63 because the claim has been canceled.

**CONCLUSION**

For the foregoing reasons, Applicants submit that the claims presented herewith are patentable over the prior art of record and respectfully solicits prompt action thereon. If any questions remain, the Examiner is invited to phone the undersigned attorneys.

Respectfully submitted:

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